Abstract ID : 877

Title : Long-finned pilot whale population mixing between two sites in Nova Scotia, Canada

Category : Behavior

Student : M.A./M.S.

Preferred Format : Poster Presentation

Abstract : Little is known about the movements of pilot whales at the level of local populations, important information for conservation and management purposes. This study matches photo-identified long-finned pilot whales (Globicephala melas) between two sites, to evaluate the degree of population mixing, defined as the proportion of individuals re-sighted after a two year time lag within the first site compared to between the two sites. Our hypothesis is that the population is well-mixed, so that an individual identified at one site has an equal probability of being re-sighted at either location two years later. Photographs of pilot whale dorsal fins were collected from whale-watch vessels in the summers of 1998 to 2000, off Bay St. Lawrence, Nova Scotia, (322 well-marked individuals identified), and off Pleasant Bay, approximately 40 km. away, during the summer of 2002 (113 well-marked individuals identified). The proportion of 1998 individuals which were re-identified off Bay St. Lawrence in 2000 was 0.327, compared to a proportion of 0.381 of the individuals identified off Pleasant Bay in 2002, which were identified at Bay St. Lawrence in 2000. In addition, members of four social units previously identified at Bay St. Lawrence were re-sighted in 2002, with dyads from two units re-sighted together. This suggests that the movements of individuals are not independent, but that long-term social units move together. A chi-square test corrected for unit structure found no significant difference in the proportion of re-sightings over a two-year time lag within the first site and between sites ($p = 0.41$). Overall, the results support the hypothesis that the population is well-mixed between these two locations.